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July 17, 2000

Magalie Roman Salas, Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Re: **Ex Parte Filing**
WT Docket No. 97-82

Dear Ms. Salas:

The purpose of this filing is to supplement the *ex parte* presentation made by Northcoast Communications, LLC ("Northcoast") and its representatives during meetings with various FCC staff members during the period of July 6 through July 13, 2000.¹ Among the issues discussed during these meetings, Northcoast expressed the view that the cost and buildout projections submitted as part of the Comments of Nextel Communications Inc. ("Nextel") for the Los Angeles market were exaggerated and inapposite to the type of network that would be built by a competitive new market entrant. To support its position, Northcoast asked LCC International ("LCC"), a recognized RF design and engineering firm, to design a wireless network simulation for the Los Angeles market. This preliminary RF design is attached. As described more fully herein, LCC's preliminary network design shows that a wireless system could be launched, and initial coverage could be provided to 80 percent of the population of the Los Angeles BTA, by deploying a network comprised of 547 cell sites, significantly less than the 2000 cell sites projected by Nextel. Clearly, this sizeable difference in the projected number of cell sites needed to launch a major market has significant cost implications, and supports Northcoast's position that designated entities have the resources necessary to build out even the largest markets. Please contact the undersigned if you have any questions about this matter.

Respectfully yours,


Theresa Zeterberg Cavanaugh

cc: Clint Odom Peter Tenhula
Mark Schneider Bryan Tramont
Adam Krinsky Thomas Sugrue

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¹ Northcoast has made all of the requisite *ex parte* contact notice filings associated with these meetings.

Introduction

Wireless networks rely on certain fundamental RF characteristics to define cell coverage area. These characteristics take into consideration receiver sensitivity, the operators frequency band, the deployed technology and finally the propagation characteristics of the environment. Northcoast Communications performed an analytical study of the Los Angeles BTA utilizing the CellCAD propagation software to determine approximately how many cell sites would be necessary to provide initial coverage. The results of this analysis identified the need to deploy 547 cell sites to cover the area bounded by San Juan Capistrano to the South, Riverside and the Cleveland Mountains to the East and the San Fernando Valley to the North. A previous submission by Nextel Communications stated that 2000 cell sites would be required to provide initial coverage for the Los Angeles BTA.

The propagation software takes into consideration the local terrain, whether the areas are suburban, rural, heavy industry or light industry. The software attempts to predict what grade of service the customer will experience while operating within the designed coverage area. However, all propagation software requires certain assumptions to be incorporated into it and the following sections define those assumptions.

RF Design Assumptions

The following RF design parameters were used in this network simulation:

Frequency Band:	PCS
Capacity:	One IS-95C carrier per cell site. Capacity cells were not taken into consideration.
Propagation Model:	Okumura-Hata
Propagation tool:	CellCAD
Technology:	CDMA (IS95C – 1X)
Coverage Objectives:	The area bounded by San Juan Capistrano to the South, Riverside and the Cleveland Mountains to the West and the San Fernando Valley to the North.
Radiation centers:	60' in urban and suburban areas while 150' for rural areas and remote highway coverage
Antennas:	90° horizontal beam width with 15.5 dBd gain
Base Transmit Power:	16 W
Pilot power:	20% (3.2W) pilot power allocation

Link Budget

The link budget defines the maximum path loss required to provide reliable service to a mobility users within a wireless network. It is a worst-case estimate that defines user coverage. This metric also takes into consideration the need to provide in-building coverage as well as full mobility services to the customer.

Reverse Link Calculations	Unit	Dense Urban	Urban	Suburban	In-vehicle
<i>Mobile Station Parameters</i>					
Max Mobile Tax Power	DBm	23	23	23	23
Mobile Station Cable Loss/ Body Loss	dB	2	2	2	2
Mobile Station Antenna Gain	dBd	0	0	0	0
Mobile Station EIRP	dBm	21	21	21	21
<i>Base Station Parameters</i>					
Base Station RX Antenna Gain	dBi	17.6	17.6	17.6	17.6
Base Station Noise Figure	dB	5	5	5	5
Base Station Cable Loss	dB	3	3	3	3
<i>Margins</i>					
Penetration Loss	dB	18	15	10	6
Lognormal Fade Margin (ps=75%, Std. Dev. = 8)	dB	7.9	7.9	7.9	7
Soft Handoff Gain	dB	3	3	3	3
Thermal Noise Density	dBm/Hz	-174	-174	-174	-174
Receiver Interference Margin	dB	3	3	3	3
Data Rate	bps	14400	14400	14400	14400
Required Eb/No	dB	7	7	7	7
Target CNR	dB	-12.3	-12.3	-12.3	-12.3
Receiver Sensitivity (50% load)	dBm	-117.4	-117.4	-117.4	-117.4
Maximum Allowable Path Loss	dB	130.1	133.1	138.1	143.0

Pilot Signal Strength Thresholds:

Attached is a coverage plot that illustrates the predicted reliable service area for both data and voice services within the Los Angeles BTA. Since the pilot channel defines coverage in a CDMA network, the following calculation is used to determine the appropriate effective radiated power referenced to a dipole antenna.

Pilot Power = 3.2W

Pilot ERP = $10 \cdot \text{LOG}(3.2) - 3 + 15.5 = 47 \text{ dBm (57W)}$

The coverage plot is bounded by specific colors, which predict the ability of the transmission to penetrate specific in-building environments. Each threshold is determined by subtracting the maximum path loss allowed to demodulate the transmission in the appropriate demographic environment. For example:

The color Blue is used to represent a Dense Urban In-building Threshold of -83 dBm.

The color Green is used to represent an Urban In-building Threshold of -86 dBm.

The color Aqua is used to represent a Suburban In-building Threshold of -91 dBm.

The color Magenta is used to represent an In-Vehicle Threshold of -96 dBm.

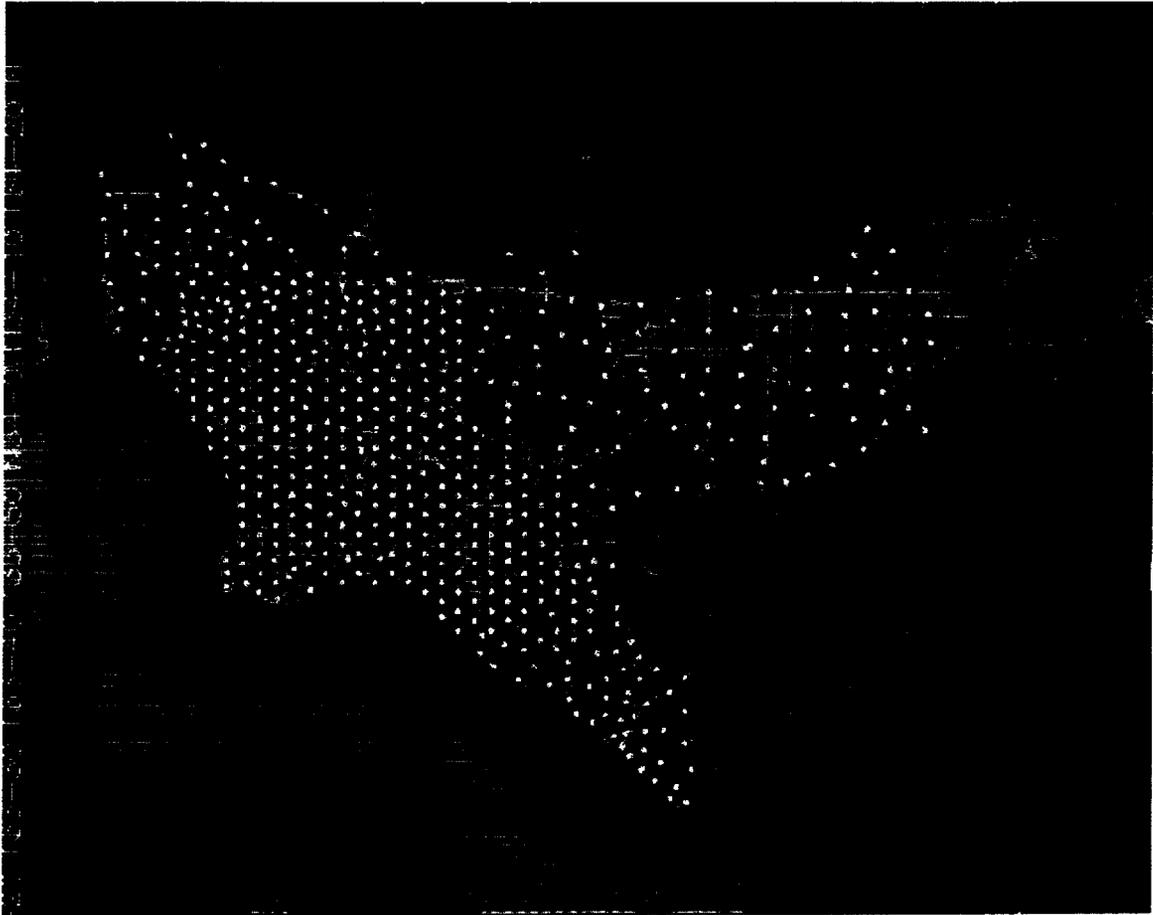
Site Counts

The following table defines the number of cells needed and their respective tower heights to provide reliable coverage in the defined area.

Cell Site Types	Counts
Cell Sites at 60 ft	411
Cell Sites at 150 ft	136
Total Cell Site Count	547

Conclusion

From the network simulations depicted in the attached coverage plot, it can be seen that approximately 547 cells are needed in the Los Angeles BTA to provide reliable wireless services utilizing IS-95 Rev C CDMA technology. Given the short time frame to respond to the Nextel submission, a more detailed analysis could not be performed. However, even if the cell count was underestimated by roughly 25 percent, 690 cells is substantially less than the 2000 cell sites referenced in the Nextel submission.



Site Name	Site ID	Latitude	Longitude	Ground Elevation (ft)	Radiation Center (ft)	Pilot ERP (W)	Antenna
LOA_1000	LOA_1000	33-40-54N	117-54-36W	52	60	56.9	PCNA085-19-0
LOA_1001	LOA_1001	33-40-56N	117-51-28W	30	60	56.9	PCNA085-19-0
LOA_1002	LOA_1002	33-53-14N	117-57-52W	217	60	56.9	PCNA085-19-0
LOA_1003	LOA_1003	33-42-11N	117-47-23W	79	60	56.9	PCNA085-19-0
LOA_1006	LOA_1006	33-40-08N	117-56-09W	75	60	56.9	PCNA085-19-0
LOA_1007	LOA_1007	33-40-10N	117-53-01W	43	60	56.9	PCNA085-19-0
LOA_1008	LOA_1008	33-39-54N	117-49-15W	89	60	56.9	PCNA085-19-0
LOA_1009	LOA_1009	33-36-49N	117-46-14W	630	60	56.9	PCNA085-19-0
LOA_1010	LOA_1010	33-38-04N	117-40-57W	482	60	56.9	PCNA085-19-0
LOA_1015	LOA_1015	33-39-13N	117-52-01W	56	60	56.9	PCNA085-19-0
LOA_1016	LOA_1016	33-40-05N	117-47-26W	108	60	56.9	PCNA085-19-0
LOA_1017	LOA_1017	33-44-39N	117-49-36W	138	60	56.9	PCNA085-19-0
LOA_1019	LOA_1019	33-39-51N	118-00-16W	13	60	56.9	PCNA085-19-0
LOA_1022	LOA_1022	33-37-19N	117-49-57W	299	60	56.9	PCNA085-19-0
LOA_1023	LOA_1023	33-38-42N	117-46-46W	335	60	56.9	PCNA085-19-0
LOA_1024	LOA_1024	33-38-43N	117-43-38W	269	60	56.9	PCNA085-19-0
LOA_1025	LOA_1025	33-38-52N	117-55-14W	92	60	56.9	PCNA085-19-0
LOA_1026	LOA_1026	33-37-54N	117-52-02W	213	60	56.9	PCNA085-19-0
LOA_1027	LOA_1027	33-37-56N	117-48-19W	279	60	56.9	PCNA085-19-0
LOA_1028	LOA_1028	33-37-51N	117-56-37W	79	60	56.9	PCNA085-19-0
LOA_1030	LOA_1030	33-47-04N	117-57-47W	92	60	56.9	PCNA085-19-0
LOA_1031	LOA_1031	33-36-53N	117-42-23W	358	60	56.9	PCNA085-19-0
LOA_1032	LOA_1032	33-37-24N	117-53-44W	7	60	56.9	PCNA085-19-0
LOA_1034	LOA_1034	33-36-25N	117-48-18W	928	60	56.9	PCNA085-19-0
LOA_1036	LOA_1036	33-36-19N	117-51-48W	272	60	56.9	PCNA085-19-0
LOA_1037	LOA_1037	33-35-07N	117-48-28W	623	60	56.9	PCNA085-19-0
LOA_1038	LOA_1038	33-32-53N	117-40-59W	472	150	56.9	PCNA085-19-0
LOA_1040	LOA_1040	33-35-09N	117-51-08W	167	60	56.9	PCNA085-19-0
LOA_1041	LOA_1041	33-33-27N	117-47-32W	453	60	56.9	PCNA085-19-0
LOA_1044	LOA_1044	33-34-31N	117-49-37W	574	60	56.9	PCNA085-19-0
LOA_1045	LOA_1045	33-33-40N	117-46-27W	220	60	56.9	PCNA085-19-0
LOA_1046	LOA_1046	34-07-58N	118-04-18W	574	60	56.9	PCNA085-19-0
LOA_1047	LOA_1047	34-08-13N	118-00-55W	456	150	56.9	PCNA085-19-0
LOA_1048	LOA_1048	34-07-12N	118-05-52W	528	60	56.9	PCNA085-19-0
LOA_1049	LOA_1049	34-07-14N	118-02-44W	427	60	56.9	PCNA085-19-0
LOA_1050	LOA_1050	34-06-28N	118-04-17W	427	60	56.9	PCNA085-19-0
LOA_1051	LOA_1051	34-06-34N	117-59-38W	295	150	56.9	PCNA085-19-0
LOA_1052	LOA_1052	34-05-42N	118-05-51W	400	60	56.9	PCNA085-19-0
LOA_1053	LOA_1053	34-05-44N	118-02-42W	325	60	56.9	PCNA085-19-0
LOA_1054	LOA_1054	34-04-58N	118-04-16W	322	60	56.9	PCNA085-19-0
LOA_1055	LOA_1055	34-05-14N	118-00-08W	328	150	56.9	PCNA085-19-0
LOA_1056	LOA_1056	34-04-11N	118-05-50W	302	60	56.9	PCNA085-19-0
LOA_1057	LOA_1057	34-04-13N	118-02-41W	269	60	56.9	PCNA085-19-0
LOA_1058	LOA_1058	34-03-27N	118-04-15W	220	60	56.9	PCNA085-19-0
LOA_1059	LOA_1059	34-03-30N	118-00-32W	289	150	56.9	PCNA085-19-0
LOA_1060	LOA_1060	34-02-21N	118-06-02W	410	60	56.9	PCNA085-19-0
LOA_1061	LOA_1061	34-02-43N	118-02-40W	239	60	56.9	PCNA085-19-0
LOA_1062	LOA_1062	34-01-57N	118-04-14W	200	60	56.9	PCNA085-19-0
LOA_1063	LOA_1063	34-01-58N	118-01-06W	259	150	56.9	PCNA085-19-0
LOA_1064	LOA_1064	34-01-10N	118-05-47W	230	60	56.9	PCNA085-19-0
LOA_1065	LOA_1065	34-01-12N	118-02-39W	213	60	56.9	PCNA085-19-0
LOA_1066	LOA_1066	34-00-26N	118-04-13W	187	60	56.9	PCNA085-19-0
LOA_1067	LOA_1067	34-01-04N	117-59-39W	404	150	56.9	PCNA085-19-0
LOA_1068	LOA_1068	33-59-40N	118-05-46W	144	60	56.9	PCNA085-19-0
LOA_1069	LOA_1069	33-59-42N	118-02-38W	492	60	56.9	PCNA085-19-0
LOA_1070	LOA_1070	33-58-56N	118-04-11W	154	60	56.9	PCNA085-19-0
LOA_1071	LOA_1071	33-58-05N	117-57-58W	1004	150	56.9	PCNA085-19-0
LOA_1072	LOA_1072	33-58-24N	118-05-50W	141	60	56.9	PCNA085-19-0
LOA_1073	LOA_1073	33-58-11N	118-02-37W	220	60	56.9	PCNA085-19-0
LOA_1074	LOA_1074	33-57-38N	118-04-21W	144	60	56.9	PCNA085-19-0
LOA_1075	LOA_1075	33-57-27N	118-01-02W	299	150	56.9	PCNA085-19-0
LOA_1076	LOA_1076	33-56-39N	118-05-44W	112	60	56.9	PCNA085-19-0
LOA_1077	LOA_1077	33-56-41N	118-02-36W	121	60	56.9	PCNA085-19-0

Site Name	Site ID	Latitude	Longitude	Ground Elevation (ft)	Radiation Center (ft)	Pilot ERP (W)	Antenna
LOA_1078	LOA_1078	33-55-55N	118-04-09W	144	60	56.9	PCNA085-19-0
LOA_1079	LOA_1079	33-55-56N	118-01-01W	217	150	56.9	PCNA085-19-0
LOA_1080	LOA_1080	34-15-14N	118-31-27W	965	60	56.9	PCNA085-19-0
LOA_1081	LOA_1081	34-16-12N	118-28-27W	951	60	56.9	PCNA085-19-0
LOA_1082	LOA_1082	34-14-20N	118-34-26W	869	60	56.9	PCNA085-19-0
LOA_1083	LOA_1083	34-14-28N	118-28-49W	853	60	56.9	PCNA085-19-0
LOA_1084	LOA_1084	34-15-25N	118-25-56W	955	60	56.9	PCNA085-19-0
LOA_1085	LOA_1085	34-13-25N	118-31-25W	784	60	56.9	PCNA085-19-0
LOA_1086	LOA_1086	34-13-52N	118-26-42W	837	60	56.9	PCNA085-19-0
LOA_1087	LOA_1087	34-12-26N	118-34-26W	784	60	56.9	PCNA085-19-0
LOA_1088	LOA_1088	34-12-32N	118-28-29W	771	60	56.9	PCNA085-19-0
LOA_1089	LOA_1089	34-12-35N	118-25-45W	768	60	56.9	PCNA085-19-0
LOA_1090	LOA_1090	34-11-37N	118-31-23W	728	60	56.9	PCNA085-19-0
LOA_1091	LOA_1091	34-11-12N	118-26-25W	709	60	56.9	PCNA085-19-0
LOA_1092	LOA_1092	34-10-41N	118-33-15W	764	60	56.9	PCNA085-19-0
LOA_1093	LOA_1093	34-10-44N	118-29-29W	705	60	56.9	PCNA085-19-0
LOA_1094	LOA_1094	34-10-47N	118-24-25W	682	60	56.9	PCNA085-19-0
LOA_1095	LOA_1095	34-09-48N	118-31-21W	797	60	56.9	PCNA085-19-0
LOA_1096	LOA_1096	34-09-51N	118-27-35W	669	60	56.9	PCNA085-19-0
LOA_1097	LOA_1097	33-51-16N	117-47-59W	285	150	56.9	PCNA085-19-0
LOA_1098	LOA_1098	33-56-01N	117-40-10W	610	150	56.9	PCNA085-19-0
LOA_1099	LOA_1099	33-53-19N	117-34-07W	577	150	56.9	PCNA085-19-0
LOA_1100	LOA_1100	33-53-59N	117-29-38W	669	150	56.9	PCNA085-19-0
LOA_1101	LOA_1101	33-52-26N	117-45-38W	348	150	56.9	PCNA085-19-0
LOA_1102	LOA_1102	33-53-04N	117-39-04W	459	150	56.9	PCNA085-19-0
LOA_1103	LOA_1103	33-53-24N	117-31-41W	774	150	56.9	PCNA085-19-0
LOA_1104	LOA_1104	33-52-48N	117-41-54W	449	150	56.9	PCNA085-19-0
LOA_1105	LOA_1105	34-13-05N	117-24-15W	2034	150	56.9	PCNA085-19-0
LOA_1106	LOA_1106	34-09-44N	117-23-28W	588	150	56.9	PCNA085-19-0
LOA_1107	LOA_1107	34-08-14N	117-20-19W	1276	150	56.9	PCNA085-19-0
LOA_1108	LOA_1108	34-06-43N	117-23-28W	1316	150	56.9	PCNA085-19-0
LOA_1109	LOA_1109	34-06-26N	117-18-33W	1093	150	56.9	PCNA085-19-0
LOA_1110	LOA_1110	34-03-42N	117-23-27W	1043	150	56.9	PCNA085-19-0
LOA_1111	LOA_1111	34-02-12N	117-20-18W	1053	150	56.9	PCNA085-19-0
LOA_1112	LOA_1112	34-00-27N	117-22-41W	791	150	56.9	PCNA085-19-0
LOA_1113	LOA_1113	33-59-11N	117-20-17W	955	150	56.9	PCNA085-19-0
LOA_1114	LOA_1114	33-57-59N	117-22-28W	856	150	56.9	PCNA085-19-0
LOA_1115	LOA_1115	33-57-24N	117-18-43W	1322	150	56.9	PCNA085-19-0
LOA_1116	LOA_1116	33-37-57N	117-45-11W	472	60	56.9	PCNA085-19-0
LOA_1117	LOA_1117	33-35-24N	117-40-58W	472	150	56.9	PCNA085-19-0
LOA_1118	LOA_1118	33-35-01N	117-45-38W	256	60	56.9	PCNA085-19-0
LOA_1123	LOA_1123	34-12-25N	118-12-29W	1401	150	56.9	PCNA085-19-0
LOA_1124	LOA_1124	34-11-08N	118-18-43W	636	150	56.9	PCNA085-19-0
LOA_1125	LOA_1125	34-10-56N	118-10-38W	1306	150	56.9	PCNA085-19-0
LOA_1126	LOA_1126	34-16-36N	118-23-06W	1119	150	56.9	PCNA085-19-0
LOA_1127	LOA_1127	34-15-22N	118-18-00W	552	150	56.9	PCNA085-19-0
LOA_1128	LOA_1128	34-14-21N	118-24-54W	889	60	56.9	PCNA085-19-0
LOA_1129	LOA_1129	34-19-55N	118-30-14W	1467	150	56.9	PCNA085-19-0
LOA_1130	LOA_1130	34-19-13N	118-27-11W	1368	150	56.9	PCNA085-19-0
LOA_415	LOA_415	34-09-11N	118-32-36W	928	150	56.9	PCNA085-19-0
LOA_416	LOA_416	34-09-13N	118-29-27W	761	150	56.9	PCNA085-19-0
LOA_417	LOA_417	34-09-15N	118-26-19W	640	150	56.9	PCNA085-19-0
LOA_420	LOA_420	34-09-45N	118-23-02W	627	150	56.9	PCNA085-19-0
LOA_421	LOA_421	34-09-20N	118-20-02W	528	150	56.9	PCNA085-19-0
LOA_422	LOA_422	34-09-22N	118-16-54W	456	150	56.9	PCNA085-19-0
LOA_424	LOA_424	34-09-24N	118-13-45W	764	150	56.9	PCNA085-19-0
LOA_425	LOA_425	34-08-56N	118-09-25W	863	150	56.9	PCNA085-19-0
LOA_428	LOA_428	34-09-27N	118-07-28W	869	150	56.9	PCNA085-19-0
LOA_432	LOA_432	34-08-29N	118-27-52W	1001	60	56.9	PCNA085-19-0
LOA_434	LOA_434	34-08-31N	118-24-44W	650	60	56.9	PCNA085-19-0
LOA_436	LOA_436	34-08-07N	118-21-13W	804	60	56.9	PCNA085-19-0
LOA_437	LOA_437	34-08-36N	118-18-27W	928	60	56.9	PCNA085-19-0
LOA_438	LOA_438	34-08-37N	118-15-19W	525	60	56.9	PCNA085-19-0

Site Name	Site ID	Latitude	Longitude	Ground Elevation (ft)	Radiation Center (ft)	Pilot ERP (W)	Antenna
LOA_440	LOA_440	34-08-39N	118-12-10W	778	60	56.9	PCNA085-19-0
LOA_442	LOA_442	34-08-41N	118-09-02W	833	60	56.9	PCNA085-19-0
LOA_444	LOA_444	34-07-28N	118-28-56W	1316	60	56.9	PCNA085-19-0
LOA_445	LOA_445	34-07-14N	118-25-36W	896	60	56.9	PCNA085-19-0
LOA_455	LOA_455	34-07-47N	118-23-09W	837	60	56.9	PCNA085-19-0
LOA_459	LOA_459	34-07-49N	118-20-01W	856	60	56.9	PCNA085-19-0
LOA_465	LOA_465	34-07-51N	118-16-52W	495	60	56.9	PCNA085-19-0
LOA_468	LOA_468	34-08-27N	118-13-49W	558	60	56.9	PCNA085-19-0
LOA_469	LOA_469	34-07-55N	118-10-35W	830	60	56.9	PCNA085-19-0
LOA_470	LOA_470	34-07-57N	118-07-27W	732	60	56.9	PCNA085-19-0
LOA_474	LOA_474	34-07-20N	118-26-58W	1178	60	56.9	PCNA085-19-0
LOA_477	LOA_477	34-07-01N	118-24-43W	814	60	56.9	PCNA085-19-0
LOA_478	LOA_478	34-07-08N	118-21-01W	1047	60	56.9	PCNA085-19-0
LOA_479	LOA_479	34-07-27N	118-18-19W	1076	60	56.9	PCNA085-19-0
LOA_485	LOA_485	34-07-07N	118-15-17W	413	60	56.9	PCNA085-19-0
LOA_486	LOA_486	34-07-09N	118-12-09W	554	60	56.9	PCNA085-19-0
LOA_489	LOA_489	34-07-11N	118-09-00W	712	60	56.9	PCNA085-19-0
LOA_493	LOA_493	34-03-18N	118-30-35W	459	60	56.9	PCNA085-19-0
LOA_495	LOA_495	34-06-20N	118-28-49W	863	60	56.9	PCNA085-19-0
LOA_497	LOA_497	34-06-15N	118-26-16W	738	60	56.9	PCNA085-19-0
LOA_498	LOA_498	34-05-49N	118-23-12W	840	60	56.9	PCNA085-19-0
LOA_499	LOA_499	34-06-35N	118-20-18W	548	60	56.9	PCNA085-19-0
LOA_502	LOA_502	34-06-21N	118-16-51W	492	60	56.9	PCNA085-19-0
LOA_505	LOA_505	34-06-23N	118-13-42W	548	60	56.9	PCNA085-19-0
LOA_506	LOA_506	34-06-25N	118-10-34W	745	60	56.9	PCNA085-19-0
LOA_515	LOA_515	34-06-26N	118-07-26W	522	60	56.9	PCNA085-19-0
LOA_516	LOA_516	34-05-19N	118-28-39W	1207	60	56.9	PCNA085-19-0
LOA_517	LOA_517	34-06-04N	118-27-34W	768	60	56.9	PCNA085-19-0
LOA_519	LOA_519	34-05-30N	118-24-41W	476	60	56.9	PCNA085-19-0
LOA_520	LOA_520	34-05-33N	118-21-33W	325	60	56.9	PCNA085-19-0
LOA_523	LOA_523	34-05-35N	118-18-24W	341	60	56.9	PCNA085-19-0
LOA_524	LOA_524	34-05-55N	118-15-25W	518	60	56.9	PCNA085-19-0
LOA_535	LOA_535	34-05-38N	118-12-08W	446	60	56.9	PCNA085-19-0
LOA_536	LOA_536	34-05-40N	118-08-59W	515	60	56.9	PCNA085-19-0
LOA_555	LOA_555	34-04-21N	118-28-58W	627	60	56.9	PCNA085-19-0
LOA_565	LOA_565	34-04-44N	118-26-14W	436	60	56.9	PCNA085-19-0
LOA_581	LOA_581	34-04-46N	118-23-06W	164	60	56.9	PCNA085-19-0
LOA_590	LOA_590	34-04-48N	118-19-58W	259	60	56.9	PCNA085-19-0
LOA_591	LOA_591	34-04-50N	118-16-49W	348	60	56.9	PCNA085-19-0
LOA_597	LOA_597	34-05-04N	118-14-00W	512	60	56.9	PCNA085-19-0
LOA_605	LOA_605	34-05-07N	118-10-25W	482	60	56.9	PCNA085-19-0
LOA_608	LOA_608	34-04-56N	118-07-24W	436	60	56.9	PCNA085-19-0
LOA_609	LOA_609	34-04-06N	118-30-10W	535	60	56.9	PCNA085-19-0
LOA_610	LOA_610	34-03-58N	118-27-48W	427	60	56.9	PCNA085-19-0
LOA_611	LOA_611	34-04-15N	118-24-46W	289	60	56.9	PCNA085-19-0
LOA_612	LOA_612	34-04-02N	118-21-31W	180	60	56.9	PCNA085-19-0
LOA_613	LOA_613	34-04-04N	118-18-23W	226	60	56.9	PCNA085-19-0
LOA_614	LOA_614	34-04-06N	118-15-15W	479	60	56.9	PCNA085-19-0
LOA_615	LOA_615	34-04-50N	118-11-42W	545	60	56.9	PCNA085-19-0
LOA_616	LOA_616	34-04-10N	118-08-58W	430	60	56.9	PCNA085-19-0
LOA_617	LOA_617	34-02-36N	118-32-38W	246	60	56.9	PCNA085-19-0
LOA_618	LOA_618	34-03-11N	118-29-21W	400	60	56.9	PCNA085-19-0
LOA_619	LOA_619	34-03-14N	118-26-13W	262	60	56.9	PCNA085-19-0
LOA_620	LOA_620	34-03-16N	118-23-05W	131	60	56.9	PCNA085-19-0
LOA_621	LOA_621	34-03-18N	118-19-56W	184	60	56.9	PCNA085-19-0
LOA_622	LOA_622	34-03-20N	118-16-22W	299	60	56.9	PCNA085-19-0
LOA_623	LOA_623	34-03-41N	118-13-20W	292	60	56.9	PCNA085-19-0
LOA_624	LOA_624	34-03-56N	118-11-27W	400	60	56.9	PCNA085-19-0
LOA_625	LOA_625	34-03-25N	118-07-23W	417	60	56.9	PCNA085-19-0
LOA_626	LOA_626	34-02-02N	118-31-02W	108	60	56.9	PCNA085-19-0
LOA_627	LOA_627	34-02-27N	118-27-46W	203	60	56.9	PCNA085-19-0
LOA_628	LOA_628	34-02-29N	118-24-24W	207	60	56.9	PCNA085-19-0
LOA_629	LOA_629	34-02-32N	118-21-30W	102	60	56.9	PCNA085-19-0

Site Name	Site ID	Latitude	Longitude	Ground Elevation (ft)	Radiation Center (ft)	Pilot ERP (W)	Antenna
LOA_630	LOA_630	34-02-40N	118-17-52W	217	60	56.9	PCNA085-19-0
LOA_631	LOA_631	34-02-36N	118-15-13W	249	60	56.9	PCNA085-19-0
LOA_632	LOA_632	34-03-04N	118-12-04W	384	60	56.9	PCNA085-19-0
LOA_633	LOA_633	34-03-11N	118-09-42W	564	60	56.9	PCNA085-19-0
LOA_635	LOA_635	34-01-41N	118-29-20W	148	60	56.9	PCNA085-19-0
LOA_636	LOA_636	34-01-43N	118-26-11W	131	60	56.9	PCNA085-19-0
LOA_637	LOA_637	34-01-45N	118-23-03W	89	60	56.9	PCNA085-19-0
LOA_638	LOA_638	34-01-47N	118-19-55W	115	60	56.9	PCNA085-19-0
LOA_639	LOA_639	34-01-49N	118-16-47W	200	60	56.9	PCNA085-19-0
LOA_640	LOA_640	34-01-51N	118-13-38W	236	60	56.9	PCNA085-19-0
LOA_641	LOA_641	34-01-53N	118-10-30W	302	60	56.9	PCNA085-19-0
LOA_642	LOA_642	34-02-18N	118-08-23W	279	60	56.9	PCNA085-19-0
LOA_644	LOA_644	34-00-57N	118-27-45W	121	60	56.9	PCNA085-19-0
LOA_645	LOA_645	34-00-59N	118-24-37W	59	60	56.9	PCNA085-19-0
LOA_646	LOA_646	34-01-01N	118-21-28W	115	60	56.9	PCNA085-19-0
LOA_647	LOA_647	34-01-03N	118-18-20W	154	60	56.9	PCNA085-19-0
LOA_648	LOA_648	34-01-05N	118-15-12W	213	60	56.9	PCNA085-19-0
LOA_649	LOA_649	34-01-07N	118-12-04W	200	60	56.9	PCNA085-19-0
LOA_650	LOA_650	34-01-09N	118-08-56W	190	60	56.9	PCNA085-19-0
LOA_652	LOA_652	34-00-10N	118-29-18W	0	60	56.9	PCNA085-19-0
LOA_653	LOA_653	34-00-13N	118-26-10W	43	60	56.9	PCNA085-19-0
LOA_654	LOA_654	34-00-15N	118-23-02W	167	60	56.9	PCNA085-19-0
LOA_655	LOA_655	34-00-17N	118-19-54W	125	60	56.9	PCNA085-19-0
LOA_656	LOA_656	34-00-19N	118-16-45W	164	60	56.9	PCNA085-19-0
LOA_657	LOA_657	34-00-21N	118-13-37W	203	60	56.9	PCNA085-19-0
LOA_658	LOA_658	34-00-23N	118-10-29W	157	60	56.9	PCNA085-19-0
LOA_659	LOA_659	34-00-24N	118-07-21W	187	60	56.9	PCNA085-19-0
LOA_661	LOA_661	33-59-26N	118-27-43W	3	60	56.9	PCNA085-19-0
LOA_662	LOA_662	33-59-28N	118-24-35W	0	60	56.9	PCNA085-19-0
LOA_663	LOA_663	33-59-31N	118-21-27W	344	60	56.9	PCNA085-19-0
LOA_664	LOA_664	33-59-33N	118-18-19W	118	60	56.9	PCNA085-19-0
LOA_665	LOA_665	33-59-35N	118-15-11W	154	60	56.9	PCNA085-19-0
LOA_666	LOA_666	33-59-36N	118-12-02W	148	60	56.9	PCNA085-19-0
LOA_667	LOA_667	33-59-38N	118-08-54W	115	60	56.9	PCNA085-19-0
LOA_670	LOA_670	33-58-42N	118-26-08W	10	60	56.9	PCNA085-19-0
LOA_671	LOA_671	33-58-44N	118-23-00W	75	60	56.9	PCNA085-19-0
LOA_672	LOA_672	33-58-46N	118-19-52W	148	60	56.9	PCNA085-19-0
LOA_673	LOA_673	33-58-55N	118-17-10W	128	60	56.9	PCNA085-19-0
LOA_674	LOA_674	33-58-50N	118-13-36W	141	60	56.9	PCNA085-19-0
LOA_675	LOA_675	33-58-52N	118-10-28W	118	60	56.9	PCNA085-19-0
LOA_676	LOA_676	33-58-54N	118-07-20W	154	60	56.9	PCNA085-19-0
LOA_678	LOA_678	33-57-56N	118-27-42W	0	60	56.9	PCNA085-19-0
LOA_679	LOA_679	33-57-58N	118-24-34W	131	60	56.9	PCNA085-19-0
LOA_680	LOA_680	33-58-00N	118-21-25W	89	60	56.9	PCNA085-19-0
LOA_681	LOA_681	33-58-02N	118-18-17W	148	60	56.9	PCNA085-19-0
LOA_682	LOA_682	33-57-54N	118-15-04W	112	60	56.9	PCNA085-19-0
LOA_683	LOA_683	33-58-06N	118-12-01W	108	60	56.9	PCNA085-19-0
LOA_684	LOA_684	33-58-08N	118-08-53W	102	60	56.9	PCNA085-19-0
LOA_687	LOA_687	33-57-12N	118-26-07W	105	60	56.9	PCNA085-19-0
LOA_688	LOA_688	33-57-14N	118-22-59W	89	60	56.9	PCNA085-19-0
LOA_689	LOA_689	33-57-16N	118-19-51W	164	60	56.9	PCNA085-19-0
LOA_690	LOA_690	33-57-18N	118-16-43W	118	60	56.9	PCNA085-19-0
LOA_691	LOA_691	33-57-20N	118-13-35W	92	60	56.9	PCNA085-19-0
LOA_692	LOA_692	33-57-22N	118-10-27W	89	60	56.9	PCNA085-19-0
LOA_693	LOA_693	33-57-23N	118-07-18W	108	60	56.9	PCNA085-19-0
LOA_696	LOA_696	33-56-28N	118-24-32W	121	60	56.9	PCNA085-19-0
LOA_697	LOA_697	33-56-30N	118-21-24W	59	60	56.9	PCNA085-19-0
LOA_698	LOA_698	33-56-49N	118-18-18W	194	60	56.9	PCNA085-19-0
LOA_699	LOA_699	33-56-34N	118-15-08W	95	60	56.9	PCNA085-19-0
LOA_700	LOA_700	33-56-36N	118-12-00W	85	60	56.9	PCNA085-19-0
LOA_701	LOA_701	33-56-37N	118-08-52W	95	60	56.9	PCNA085-19-0
LOA_704	LOA_704	33-55-41N	118-26-05W	30	60	56.9	PCNA085-19-0
LOA_705	LOA_705	33-55-43N	118-22-57W	92	60	56.9	PCNA085-19-0

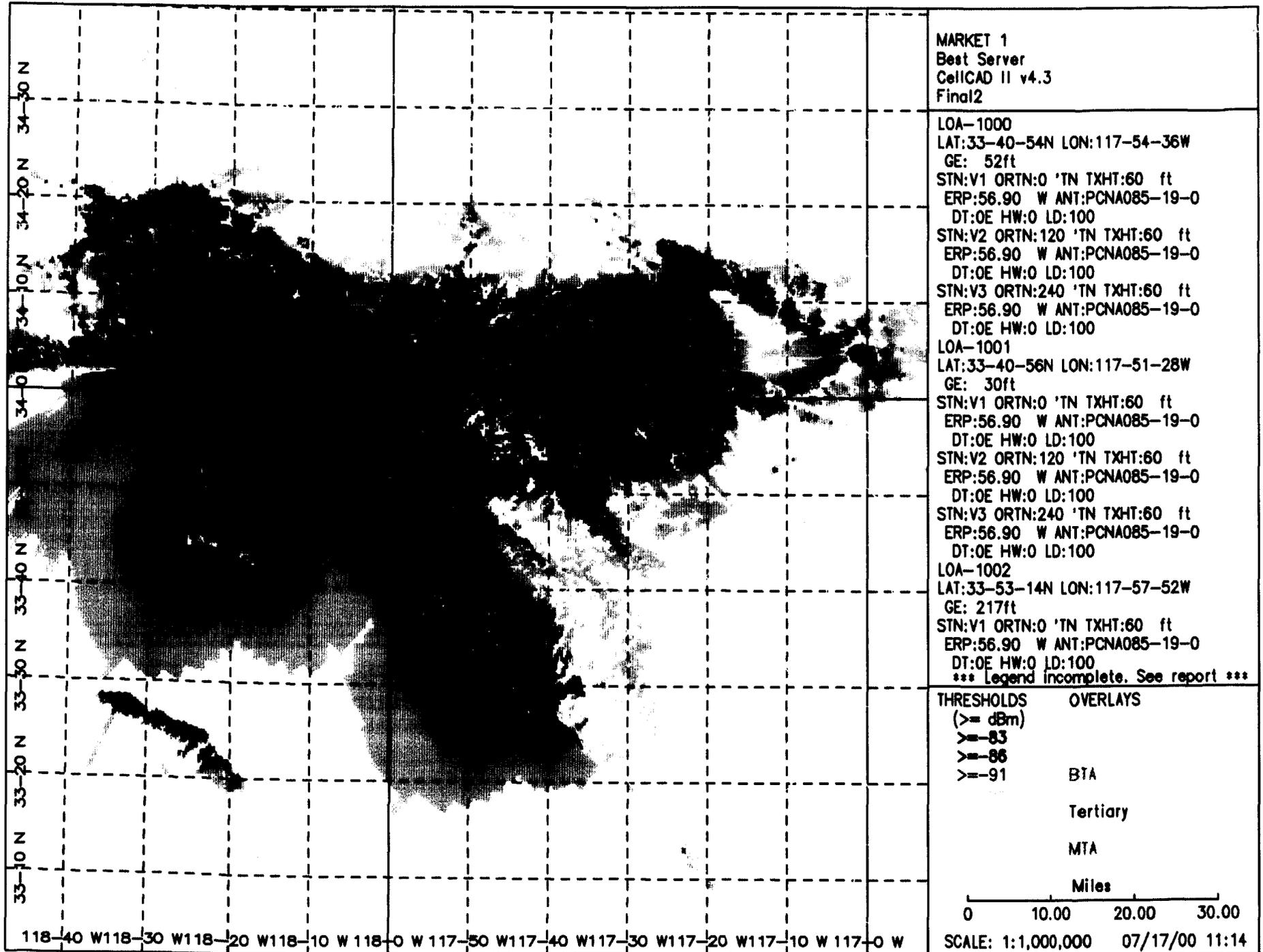
Site Name	Site ID	Latitude	Longitude	Ground Elevation (ft)	Radiation Center (ft)	Pilot ERP (W)	Antenna
LOA_706	LOA_706	33-55-45N	118-19-49W	49	60	56.9	PCNA085-19-0
LOA_707	LOA_707	33-55-47N	118-16-41W	121	60	56.9	PCNA085-19-0
LOA_708	LOA_708	33-55-49N	118-13-33W	72	60	56.9	PCNA085-19-0
LOA_709	LOA_709	33-55-51N	118-10-25W	79	60	56.9	PCNA085-19-0
LOA_710	LOA_710	33-55-53N	118-07-17W	108	60	56.9	PCNA085-19-0
LOA_713	LOA_713	33-54-57N	118-24-31W	98	60	56.9	PCNA085-19-0
LOA_714	LOA_714	33-54-59N	118-21-23W	72	60	56.9	PCNA085-19-0
LOA_715	LOA_715	33-55-01N	118-18-15W	105	60	56.9	PCNA085-19-0
LOA_716	LOA_716	33-55-03N	118-15-07W	62	60	56.9	PCNA085-19-0
LOA_717	LOA_717	33-55-34N	118-11-47W	79	60	56.9	PCNA085-19-0
LOA_718	LOA_718	33-55-07N	118-08-51W	79	60	56.9	PCNA085-19-0
LOA_722	LOA_722	33-54-13N	118-22-56W	75	60	56.9	PCNA085-19-0
LOA_723	LOA_723	33-54-15N	118-19-48W	39	60	56.9	PCNA085-19-0
LOA_724	LOA_724	33-54-17N	118-16-40W	102	60	56.9	PCNA085-19-0
LOA_725	LOA_725	33-54-19N	118-13-32W	52	60	56.9	PCNA085-19-0
LOA_726	LOA_726	33-54-34N	118-10-35W	62	60	56.9	PCNA085-19-0
LOA_727	LOA_727	33-54-22N	118-07-16W	85	60	56.9	PCNA085-19-0
LOA_730	LOA_730	33-53-27N	118-24-29W	125	60	56.9	PCNA085-19-0
LOA_731	LOA_731	33-53-29N	118-21-21W	36	60	56.9	PCNA085-19-0
LOA_732	LOA_732	33-53-31N	118-18-13W	39	60	56.9	PCNA085-19-0
LOA_733	LOA_733	33-53-33N	118-15-05W	75	60	56.9	PCNA085-19-0
LOA_734	LOA_734	33-53-35N	118-11-57W	52	60	56.9	PCNA085-19-0
LOA_735	LOA_735	33-53-36N	118-08-49W	66	60	56.9	PCNA085-19-0
LOA_739	LOA_739	33-52-42N	118-22-54W	98	60	56.9	PCNA085-19-0
LOA_740	LOA_740	33-52-44N	118-19-46W	30	60	56.9	PCNA085-19-0
LOA_741	LOA_741	33-52-46N	118-16-39W	13	60	56.9	PCNA085-19-0
LOA_742	LOA_742	33-52-48N	118-13-31W	43	60	56.9	PCNA085-19-0
LOA_743	LOA_743	33-52-50N	118-10-23W	52	60	56.9	PCNA085-19-0
LOA_744	LOA_744	33-52-52N	118-07-15W	66	60	56.9	PCNA085-19-0
LOA_748	LOA_748	33-51-58N	118-21-20W	66	60	56.9	PCNA085-19-0
LOA_749	LOA_749	33-52-00N	118-18-12W	13	60	56.9	PCNA085-19-0
LOA_750	LOA_750	33-52-06N	118-14-41W	151	60	56.9	PCNA085-19-0
LOA_751	LOA_751	33-52-16N	118-11-56W	59	60	56.9	PCNA085-19-0
LOA_752	LOA_752	33-52-06N	118-08-48W	49	60	56.9	PCNA085-19-0
LOA_756	LOA_756	33-51-12N	118-22-53W	128	60	56.9	PCNA085-19-0
LOA_757	LOA_757	33-51-14N	118-19-45W	46	60	56.9	PCNA085-19-0
LOA_758	LOA_758	33-51-16N	118-16-37W	0	60	56.9	PCNA085-19-0
LOA_759	LOA_759	33-51-28N	118-13-19W	167	60	56.9	PCNA085-19-0
LOA_760	LOA_760	33-51-20N	118-10-22W	46	60	56.9	PCNA085-19-0
LOA_761	LOA_761	33-51-20N	118-07-03W	43	60	56.9	PCNA085-19-0
LOA_765	LOA_765	33-50-28N	118-21-18W	85	60	56.9	PCNA085-19-0
LOA_766	LOA_766	33-50-30N	118-18-10W	33	60	56.9	PCNA085-19-0
LOA_767	LOA_767	33-50-33N	118-14-38W	10	60	56.9	PCNA085-19-0
LOA_768	LOA_768	33-50-42N	118-12-02W	36	60	56.9	PCNA085-19-0
LOA_769	LOA_769	33-50-35N	118-08-47W	49	60	56.9	PCNA085-19-0
LOA_773	LOA_773	33-49-41N	118-22-51W	115	60	56.9	PCNA085-19-0
LOA_774	LOA_774	33-49-44N	118-19-44W	79	60	56.9	PCNA085-19-0
LOA_775	LOA_775	33-49-45N	118-16-36W	23	60	56.9	PCNA085-19-0
LOA_776	LOA_776	33-49-47N	118-13-28W	16	60	56.9	PCNA085-19-0
LOA_777	LOA_777	33-49-49N	118-10-20W	82	60	56.9	PCNA085-19-0
LOA_778	LOA_778	33-49-51N	118-07-13W	36	60	56.9	PCNA085-19-0
LOA_782	LOA_782	33-48-57N	118-21-17W	56	60	56.9	PCNA085-19-0
LOA_783	LOA_783	33-48-59N	118-18-09W	39	60	56.9	PCNA085-19-0
LOA_784	LOA_784	33-49-01N	118-15-01W	23	60	56.9	PCNA085-19-0
LOA_785	LOA_785	33-49-03N	118-11-54W	46	60	56.9	PCNA085-19-0
LOA_786	LOA_786	33-49-05N	118-08-46W	36	60	56.9	PCNA085-19-0
LOA_790	LOA_790	33-48-11N	118-22-50W	348	60	56.9	PCNA085-19-0
LOA_791	LOA_791	33-48-13N	118-19-42W	59	60	56.9	PCNA085-19-0
LOA_792	LOA_792	33-48-15N	118-16-35W	26	60	56.9	PCNA085-19-0
LOA_793	LOA_793	33-48-17N	118-13-27W	16	60	56.9	PCNA085-19-0
LOA_794	LOA_794	33-48-19N	118-10-19W	131	60	56.9	PCNA085-19-0
LOA_795	LOA_795	33-48-20N	118-07-11W	26	60	56.9	PCNA085-19-0
LOA_799	LOA_799	33-47-27N	118-21-15W	364	60	56.9	PCNA085-19-0

Site Name	Site ID	Latitude	Longitude	Ground Elevation (ft)	Radiation Center (ft)	Pilot ERP (W)	Antenna
LOA_800	LOA_800	33-47-29N	118-18-08W	66	60	56.9	PCNA085-19-0
LOA_801	LOA_801	33-47-31N	118-15-00W	30	60	56.9	PCNA085-19-0
LOA_802	LOA_802	33-47-33N	118-11-52W	13	60	56.9	PCNA085-19-0
LOA_803	LOA_803	33-47-34N	118-08-45W	39	60	56.9	PCNA085-19-0
LOA_807	LOA_807	33-46-40N	118-22-49W	1053	60	56.9	PCNA085-19-0
LOA_808	LOA_808	33-46-57N	118-19-49W	285	60	56.9	PCNA085-19-0
LOA_809	LOA_809	33-46-45N	118-16-33W	23	60	56.9	PCNA085-19-0
LOA_810	LOA_810	33-47-06N	118-12-52W	10	60	56.9	PCNA085-19-0
LOA_811	LOA_811	33-47-09N	118-09-50W	20	60	56.9	PCNA085-19-0
LOA_812	LOA_812	33-46-50N	118-07-10W	30	60	56.9	PCNA085-19-0
LOA_815	LOA_815	33-45-56N	118-24-11W	571	60	56.9	PCNA085-19-0
LOA_816	LOA_816	33-45-55N	118-21-05W	886	60	56.9	PCNA085-19-0
LOA_817	LOA_817	33-46-21N	118-17-56W	157	60	56.9	PCNA085-19-0
LOA_818	LOA_818	33-46-00N	118-14-59W	0	60	56.9	PCNA085-19-0
LOA_819	LOA_819	33-46-02N	118-11-51W	13	60	56.9	PCNA085-19-0
LOA_820	LOA_820	33-46-04N	118-08-43W	56	60	56.9	PCNA085-19-0
LOA_824	LOA_824	33-45-07N	118-22-23W	587	60	56.9	PCNA085-19-0
LOA_825	LOA_825	33-45-12N	118-19-39W	781	60	56.9	PCNA085-19-0
LOA_826	LOA_826	33-45-41N	118-18-24W	131	60	56.9	PCNA085-19-0
LOA_827	LOA_827	33-45-16N	118-13-24W	10	60	56.9	PCNA085-19-0
LOA_828	LOA_828	33-45-18N	118-10-17W	0	60	56.9	PCNA085-19-0
LOA_829	LOA_829	33-45-20N	118-07-09W	3	60	56.9	PCNA085-19-0
LOA_833	LOA_833	33-44-26N	118-21-13W	469	60	56.9	PCNA085-19-0
LOA_834	LOA_834	33-43-57N	118-19-25W	748	60	56.9	PCNA085-19-0
LOA_835	LOA_835	33-44-38N	118-16-22W	0	60	56.9	PCNA085-19-0
LOA_838	LOA_838	33-54-24N	118-04-08W	98	60	56.9	PCNA085-19-0
LOA_839	LOA_839	33-54-26N	118-01-00W	141	60	56.9	PCNA085-19-0
LOA_840	LOA_840	33-54-27N	117-57-52W	459	60	56.9	PCNA085-19-0
LOA_841	LOA_841	33-54-29N	117-54-44W	335	60	56.9	PCNA085-19-0
LOA_842	LOA_842	33-54-30N	117-51-36W	364	60	56.9	PCNA085-19-0
LOA_843	LOA_843	33-53-55N	118-05-53W	79	60	56.9	PCNA085-19-0
LOA_844	LOA_844	33-53-40N	118-02-34W	72	60	56.9	PCNA085-19-0
LOA_845	LOA_845	33-53-41N	117-59-26W	144	60	56.9	PCNA085-19-0
LOA_846	LOA_846	33-53-43N	117-56-18W	338	60	56.9	PCNA085-19-0
LOA_847	LOA_847	33-53-44N	117-53-10W	272	60	56.9	PCNA085-19-0
LOA_848	LOA_848	33-52-54N	118-04-07W	72	60	56.9	PCNA085-19-0
LOA_849	LOA_849	33-52-55N	118-00-59W	62	60	56.9	PCNA085-19-0
LOA_852	LOA_852	33-53-00N	117-49-54W	322	60	56.9	PCNA085-19-0
LOA_853	LOA_853	33-52-08N	118-05-40W	62	60	56.9	PCNA085-19-0
LOA_854	LOA_854	33-52-09N	118-02-32W	46	60	56.9	PCNA085-19-0
LOA_855	LOA_855	33-52-11N	117-59-25W	75	60	56.9	PCNA085-19-0
LOA_856	LOA_856	33-52-12N	117-56-17W	151	60	56.9	PCNA085-19-0
LOA_857	LOA_857	33-52-14N	117-53-09W	210	60	56.9	PCNA085-19-0
LOA_858	LOA_858	33-51-23N	118-04-06W	46	60	56.9	PCNA085-19-0
LOA_859	LOA_859	33-51-25N	118-00-58W	52	60	56.9	PCNA085-19-0
LOA_860	LOA_860	33-51-26N	117-57-50W	128	60	56.9	PCNA085-19-0
LOA_861	LOA_861	33-51-28N	117-54-42W	180	60	56.9	PCNA085-19-0
LOA_862	LOA_862	33-51-29N	117-51-34W	239	60	56.9	PCNA085-19-0
LOA_863	LOA_863	33-50-37N	118-05-39W	49	60	56.9	PCNA085-19-0
LOA_864	LOA_864	33-50-39N	118-02-31W	46	60	56.9	PCNA085-19-0
LOA_865	LOA_865	33-50-40N	117-59-24W	98	60	56.9	PCNA085-19-0
LOA_866	LOA_866	33-50-42N	117-56-16W	154	60	56.9	PCNA085-19-0
LOA_867	LOA_867	33-50-43N	117-53-08W	187	60	56.9	PCNA085-19-0
LOA_868	LOA_868	33-49-53N	118-04-05W	43	60	56.9	PCNA085-19-0
LOA_869	LOA_869	33-49-54N	118-00-57W	56	60	56.9	PCNA085-19-0
LOA_871	LOA_871	33-49-57N	117-54-41W	161	60	56.9	PCNA085-19-0
LOA_872	LOA_872	33-49-59N	117-51-33W	197	60	56.9	PCNA085-19-0
LOA_873	LOA_873	33-49-07N	118-05-38W	33	60	56.9	PCNA085-19-0
LOA_874	LOA_874	33-49-08N	118-02-30W	49	60	56.9	PCNA085-19-0
LOA_875	LOA_875	33-49-10N	117-59-22W	75	60	56.9	PCNA085-19-0
LOA_876	LOA_876	33-49-11N	117-56-15W	138	60	56.9	PCNA085-19-0
LOA_877	LOA_877	33-49-13N	117-53-07W	174	60	56.9	PCNA085-19-0
LOA_878	LOA_878	33-48-22N	118-04-04W	26	60	56.9	PCNA085-19-0

Site Name	Site ID	Latitude	Longitude	Ground Elevation (ft)	Radiation Center (ft)	Pilot ERP (W)	Antenna
LOA_879	LOA_879	33-48-24N	118-00-56W	43	60	56.9	PCNA085-19-0
LOA_880	LOA_880	33-48-25N	117-57-48W	115	60	56.9	PCNA085-19-0
LOA_881	LOA_881	33-48-27N	117-54-40W	148	60	56.9	PCNA085-19-0
LOA_882	LOA_882	33-48-34N	117-50-31W	233	60	56.9	PCNA085-19-0
LOA_883	LOA_883	33-47-36N	118-05-37W	30	60	56.9	PCNA085-19-0
LOA_884	LOA_884	33-47-38N	118-02-29W	46	60	56.9	PCNA085-19-0
LOA_885	LOA_885	33-47-39N	117-59-21W	69	60	56.9	PCNA085-19-0
LOA_886	LOA_886	33-47-41N	117-56-14W	118	60	56.9	PCNA085-19-0
LOA_887	LOA_887	33-47-42N	117-53-06W	144	60	56.9	PCNA085-19-0
LOA_888	LOA_888	33-46-52N	118-04-02W	30	60	56.9	PCNA085-19-0
LOA_889	LOA_889	33-46-53N	118-00-55W	36	60	56.9	PCNA085-19-0
LOA_891	LOA_891	33-46-56N	117-54-39W	118	60	56.9	PCNA085-19-0
LOA_892	LOA_892	33-46-47N	117-51-08W	210	60	56.9	PCNA085-19-0
LOA_893	LOA_893	33-46-06N	118-05-36W	10	60	56.9	PCNA085-19-0
LOA_894	LOA_894	33-46-07N	118-02-28W	30	60	56.9	PCNA085-19-0
LOA_895	LOA_895	33-46-09N	117-59-20W	75	60	56.9	PCNA085-19-0
LOA_896	LOA_896	33-46-10N	117-56-13W	105	60	56.9	PCNA085-19-0
LOA_897	LOA_897	33-46-12N	117-53-05W	125	60	56.9	PCNA085-19-0
LOA_898	LOA_898	33-45-21N	118-04-01W	7	60	56.9	PCNA085-19-0
LOA_899	LOA_899	33-45-23N	118-00-54W	33	60	56.9	PCNA085-19-0
LOA_900	LOA_900	33-45-24N	117-57-46W	75	60	56.9	PCNA085-19-0
LOA_901	LOA_901	33-45-26N	117-54-38W	98	60	56.9	PCNA085-19-0
LOA_902	LOA_902	33-45-27N	117-51-31W	148	60	56.9	PCNA085-19-0
LOA_903	LOA_903	33-44-35N	118-05-35W	7	60	56.9	PCNA085-19-0
LOA_904	LOA_904	33-44-37N	118-02-27W	13	60	56.9	PCNA085-19-0
LOA_905	LOA_905	33-44-38N	117-59-19W	33	60	56.9	PCNA085-19-0
LOA_906	LOA_906	33-50-09N	117-57-40W	135	60	56.9	PCNA085-19-0
LOA_907	LOA_907	33-44-41N	117-53-04W	82	60	56.9	PCNA085-19-0
LOA_908	LOA_908	34-11-03N	117-58-03W	103	150	56.9	PCNA085-19-0
LOA_909	LOA_909	34-11-05N	117-51-46W	1562	150	56.9	PCNA085-19-0
LOA_913	LOA_913	34-11-03N	117-25-26W	1962	150	56.9	PCNA085-19-0
LOA_914	LOA_914	34-09-34N	117-54-54W	722	150	56.9	PCNA085-19-0
LOA_918	LOA_918	34-09-16N	117-29-01W	1542	150	56.9	PCNA085-19-0
LOA_919	LOA_919	34-08-15N	117-56-44W	597	150	56.9	PCNA085-19-0
LOA_920	LOA_920	34-07-28N	117-52-06W	696	150	56.9	PCNA085-19-0
LOA_921	LOA_921	34-07-07N	117-45-31W	1188	150	56.9	PCNA085-19-0
LOA_922	LOA_922	34-08-09N	117-39-10W	1670	150	56.9	PCNA085-19-0
LOA_923	LOA_923	34-08-11N	117-32-53W	1506	150	56.9	PCNA085-19-0
LOA_924	LOA_924	34-08-23N	117-25-55W	1572	150	56.9	PCNA085-19-0
LOA_925	LOA_925	34-06-33N	117-54-52W	472	150	56.9	PCNA085-19-0
LOA_926	LOA_926	34-06-58N	117-49-17W	919	150	56.9	PCNA085-19-0
LOA_927	LOA_927	34-05-56N	117-42-28W	1194	150	56.9	PCNA085-19-0
LOA_928	LOA_928	34-06-45N	117-36-35W	1309	150	56.9	PCNA085-19-0
LOA_929	LOA_929	34-06-41N	117-29-44W	1230	150	56.9	PCNA085-19-0
LOA_930	LOA_930	34-04-33N	117-58-05W	328	150	56.9	PCNA085-19-0
LOA_931	LOA_931	34-04-46N	117-52-58W	515	150	56.9	PCNA085-19-0
LOA_932	LOA_932	34-04-54N	117-45-48W	968	150	56.9	PCNA085-19-0
LOA_933	LOA_933	34-05-08N	117-39-09W	1122	150	56.9	PCNA085-19-0
LOA_934	LOA_934	34-05-14N	117-32-47W	1076	150	56.9	PCNA085-19-0
LOA_935	LOA_935	34-06-21N	117-26-23W	1319	150	56.9	PCNA085-19-0
LOA_936	LOA_936	34-03-46N	117-55-18W	407	150	56.9	PCNA085-19-0
LOA_937	LOA_937	34-03-34N	117-48-33W	732	150	56.9	PCNA085-19-0
LOA_938	LOA_938	34-03-37N	117-42-17W	919	150	56.9	PCNA085-19-0
LOA_939	LOA_939	34-03-46N	117-35-36W	945	150	56.9	PCNA085-19-0
LOA_940	LOA_940	34-03-40N	117-29-43W	981	150	56.9	PCNA085-19-0
LOA_941	LOA_941	34-00-58N	117-57-18W	299	150	56.9	PCNA085-19-0
LOA_942	LOA_942	34-02-22N	117-55-11W	436	150	56.9	PCNA085-19-0
LOA_943	LOA_943	34-02-05N	117-45-24W	778	150	56.9	PCNA085-19-0
LOA_944	LOA_944	34-02-07N	117-39-08W	850	150	56.9	PCNA085-19-0
LOA_945	LOA_945	34-02-09N	117-32-51W	853	150	56.9	PCNA085-19-0
LOA_946	LOA_946	34-03-45N	117-26-06W	1083	150	56.9	PCNA085-19-0
LOA_947	LOA_947	34-00-13N	117-55-04W	364	150	56.9	PCNA085-19-0
LOA_948	LOA_948	34-01-35N	117-48-51W	784	150	56.9	PCNA085-19-0

Site Name	Site ID	Latitude	Longitude	Ground Elevation (ft)	Radiation Center (ft)	Pilot ERP (W)	Antenna
LOA_949	LOA_949	34-01-34N	117-41-28W	784	150	56.9	PCNA085-19-0
LOA_950	LOA_950	34-01-41N	117-36-02W	797	150	56.9	PCNA085-19-0
LOA_951	LOA_951	34-00-39N	117-29-42W	735	150	56.9	PCNA085-19-0
LOA_952	LOA_952	33-59-16N	117-57-56W	581	150	56.9	PCNA085-19-0
LOA_953	LOA_953	33-59-27N	117-50-12W	971	150	56.9	PCNA085-19-0
LOA_954	LOA_954	34-00-33N	117-44-52W	902	150	56.9	PCNA085-19-0
LOA_955	LOA_955	34-00-14N	117-39-40W	692	150	56.9	PCNA085-19-0
LOA_956	LOA_956	33-59-08N	117-32-50W	689	150	56.9	PCNA085-19-0
LOA_957	LOA_957	34-00-57N	117-26-09W	942	150	56.9	PCNA085-19-0
LOA_958	LOA_958	33-57-31N	117-51-58W	735	150	56.9	PCNA085-19-0
LOA_959	LOA_959	33-56-03N	117-47-32W	745	150	56.9	PCNA085-19-0
LOA_960	LOA_960	33-57-35N	117-42-14W	696	150	56.9	PCNA085-19-0
LOA_961	LOA_961	33-56-51N	117-33-45W	571	150	56.9	PCNA085-19-0
LOA_962	LOA_962	33-54-58N	117-33-46W	650	150	56.9	PCNA085-19-0
LOA_963	LOA_963	33-55-58N	117-57-53W	299	150	56.9	PCNA085-19-0
LOA_964	LOA_964	33-55-56N	117-53-02W	597	150	56.9	PCNA085-19-0
LOA_965	LOA_965	33-59-20N	117-43-09W	659	150	56.9	PCNA085-19-0
LOA_966	LOA_966	33-55-06N	117-38-39W	486	150	56.9	PCNA085-19-0
LOA_967	LOA_967	33-54-44N	117-27-21W	761	150	56.9	PCNA085-19-0
LOA_968	LOA_968	33-55-59N	117-24-29W	837	150	56.9	PCNA085-19-0
LOA_969	LOA_969	33-43-51N	118-04-00W	10	60	56.9	PCNA085-19-0
LOA_970	LOA_970	33-43-52N	118-00-53W	7	60	56.9	PCNA085-19-0
LOA_971	LOA_971	33-43-54N	117-57-45W	49	60	56.9	PCNA085-19-0
LOA_972	LOA_972	33-43-55N	117-54-37W	66	60	56.9	PCNA085-19-0
LOA_973	LOA_973	33-43-57N	117-51-30W	105	60	56.9	PCNA085-19-0
LOA_974	LOA_974	33-43-31N	117-47-26W	102	60	56.9	PCNA085-19-0
LOA_975	LOA_975	33-44-46N	117-56-09W	79	60	56.9	PCNA085-19-0
LOA_976	LOA_976	33-43-06N	118-02-26W	13	60	56.9	PCNA085-19-0
LOA_977	LOA_977	33-43-08N	117-59-18W	33	60	56.9	PCNA085-19-0
LOA_978	LOA_978	33-43-09N	117-56-11W	49	60	56.9	PCNA085-19-0
LOA_979	LOA_979	33-42-57N	117-53-34W	36	60	56.9	PCNA085-19-0
LOA_980	LOA_980	33-43-12N	117-49-56W	89	60	56.9	PCNA085-19-0
LOA_981	LOA_981	33-46-47N	117-47-54W	600	60	56.9	PCNA085-19-0
LOA_982	LOA_982	33-47-09N	117-49-39W	269	60	56.9	PCNA085-19-0
LOA_983	LOA_983	33-42-37N	118-03-59W	0	60	56.9	PCNA085-19-0
LOA_984	LOA_984	33-42-22N	118-00-52W	0	60	56.9	PCNA085-19-0
LOA_985	LOA_985	33-40-33N	117-58-00W	7	60	56.9	PCNA085-19-0
LOA_987	LOA_987	33-42-26N	117-51-29W	52	60	56.9	PCNA085-19-0
LOA_988	LOA_988	33-40-50N	117-46-06W	167	60	56.9	PCNA085-19-0
LOA_989	LOA_989	33-39-36N	117-45-18W	200	60	56.9	PCNA085-19-0
LOA_990	LOA_990	33-41-36N	118-02-25W	0	60	56.9	PCNA085-19-0
LOA_991	LOA_991	33-41-37N	117-59-17W	56	60	56.9	PCNA085-19-0
LOA_992	LOA_992	33-41-39N	117-56-10W	26	60	56.9	PCNA085-19-0
LOA_993	LOA_993	33-41-40N	117-53-02W	26	60	56.9	PCNA085-19-0
LOA_994	LOA_994	33-41-41N	117-49-55W	26	60	56.9	PCNA085-19-0
LOA_995	LOA_995	33-42-25N	117-57-43W	39	60	56.9	PCNA085-19-0
LOA_996	LOA_996	33-45-43N	117-50-01W	187	60	56.9	PCNA085-19-0
LOA_998	LOA_998	33-41-12N	118-00-04W	56	60	56.9	PCNA085-19-0
LOA_999	LOA_999	33-38-50N	117-58-56W	3	60	56.9	PCNA085-19-0
LOA_N1	LOA_N1	33-55-04N	118-05-37W	89	60	56.9	PCNA085-19-0
LOA_N2	LOA_N2	33-55-11N	118-02-34W	131	60	56.9	PCNA085-19-0
LOA_N3	LOA_N3	34-06-22N	118-24-19W	804	60	56.9	PCNA085-19-0
LOA_N4	LOA_N4	34-07-26N	118-13-23W	538	60	56.9	PCNA085-19-0
LOA_N5	LOA_N5	34-05-09N	118-27-20W	725	60	56.9	PCNA085-19-0
LOA_N6	LOA_N6	34-04-05N	118-32-21W	1155	60	56.9	PCNA085-19-0
LOA_N7	LOA_N7	34-11-41N	118-23-07W	722	150	56.9	PCNA085-19-0
LOA_N8	LOA_N8	34-11-59N	118-20-46W	689	150	56.9	PCNA085-19-0
LOA_N9	LOA_N9	34-06-50N	118-22-41W	909	60	56.9	PCNA085-19-0
cp10	cp10	34-14-09N	118-15-31W	1749	150	56.9	PCNA085-19-0
cp11	cp11	33-31-23N	117-43-09W	348	150	56.9	PCNA085-19-0
cp12	cp12	33-29-27N	117-41-42W	417	150	56.9	PCNA085-19-0
cp13	cp13	34-07-42N	117-42-03W	1588	150	56.9	PCNA085-19-0
cp14	cp14	33-46-55N	118-24-22W	591	60	56.9	PCNA085-19-0

Site Name	Site ID	Latitude	Longitude	Ground Elevation (ft)	Radiation Center (ft)	Pilot ERP (W)	Antenna
cp15	cp15	33-44-47N	118-24-15W	341	60	56.9	PCNA085-19-0
cp16	cp16	34-16-20N	118-20-34W	1158	150	56.9	PCNA085-19-0
cp17	cp17	33-30-51N	117-40-18W	128	150	56.9	PCNA085-19-0
cp18	cp18	33-33-57N	117-42-56W	236	150	56.9	PCNA085-19-0
cp19	cp19	33-32-21N	117-44-46W	256	150	56.9	PCNA085-19-0
cp1	cp1	34-04-16N	117-50-45W	807	150	56.9	PCNA085-19-0
cp20	cp20	33-28-17N	117-40-47W	16	60	56.9	PCNA085-19-0
cp21	cp21	33-33-48N	117-44-39W	239	150	56.9	PCNA085-19-0
cp22	cp22	33-31-56N	117-45-58W	305	150	56.9	PCNA085-19-0
cp23	cp23	33-30-51N	117-44-55W	102	150	56.9	PCNA085-19-0
cp24	cp24	33-32-39N	117-46-47W	157	60	56.9	PCNA085-19-0
cp25	cp25	33-28-33N	117-42-14W	292	150	56.9	PCNA085-19-0
cp26	cp26	33-29-56N	117-43-44W	610	150	56.9	PCNA085-19-0
cp27	cp27	33-34-43N	117-46-57W	522	60	56.9	PCNA085-19-0
cp28	cp28	33-36-00N	117-44-31W	407	150	56.9	PCNA085-19-0
cp29	cp29	33-36-07N	117-46-32W	699	60	56.9	PCNA085-19-0
cp2	cp2	34-05-31N	117-49-01W	869	150	56.9	PCNA085-19-0
cp30	cp30	33-58-45N	117-47-32W	932	150	56.9	PCNA085-19-0
cp31	cp31	33-55-47N	117-49-32W	919	150	56.9	PCNA085-19-0
cp32	cp32	33-59-13N	117-36-19W	669	150	56.9	PCNA085-19-0
cp33	cp33	33-56-39N	117-36-49W	558	150	56.9	PCNA085-19-0
cp34	cp34	33-58-35N	117-29-17W	679	150	56.9	PCNA085-19-0
cp35	cp35	34-04-01N	117-35-10W	965	150	56.9	PCNA085-19-0
cp36	cp36	33-58-17N	117-25-26W	718	150	56.9	PCNA085-19-0
cp37	cp37	34-04-17N	117-18-13W	974	150	56.9	PCNA085-19-0
cp38	cp38	34-04-27N	117-20-41W	1053	150	56.9	PCNA085-19-0
cp39	cp39	34-11-22N	117-21-56W	1699	150	56.9	PCNA085-19-0
cp3	cp3	33-59-53N	117-52-44W	446	150	56.9	PCNA085-19-0
cp40	cp40	34-15-16N	118-36-05W	965	60	56.9	PCNA085-19-0
cp41	cp41	34-10-34N	118-36-03W	843	60	56.9	PCNA085-19-0
cp42	cp42	34-13-19N	118-36-33W	840	60	56.9	PCNA085-19-0
cp43	cp43	34-16-51N	118-36-47W	1407	60	56.9	PCNA085-19-0
cp44	cp44	34-08-23N	118-35-47W	1325	60	56.9	PCNA085-19-0
cp45	cp45	34-06-23N	118-34-41W	1457	60	56.9	PCNA085-19-0
cp46	cp46	34-04-46N	118-34-55W	401	60	56.9	PCNA085-19-0
cp47	cp47	34-06-04N	118-31-13W	1076	60	56.9	PCNA085-19-0
cp49	cp49	34-07-03N	118-32-37W	1450	60	56.9	PCNA085-19-0
cp4	cp4	33-57-52N	117-38-57W	584	150	56.9	PCNA085-19-0
cp5	cp5	34-02-09N	117-22-04W	886	150	56.9	PCNA085-19-0
cp6	cp6	34-18-21N	118-28-59W	1224	150	56.9	PCNA085-19-0
cp7	cp7	34-13-17N	118-21-54W	801	150	56.9	PCNA085-19-0
cp8	cp8	34-11-15N	118-13-43W	974	150	56.9	PCNA085-19-0
cp9	cp9	34-17-59N	118-25-20W	1220	150	56.9	PCNA085-19-0



MARKET 1
 Best Server
 CellCAD II v4.3
 Final2

LOA-1000
 LAT:33-40-54N LON:117-54-36W
 GE: 52ft
 STN:V1 ORTN:0 'TN TXHT:60 ft
 ERP:56.90 W ANT:PCNA085-19-0
 DT:0E HW:0 LD:100
 STN:V2 ORTN:120 'TN TXHT:60 ft
 ERP:56.90 W ANT:PCNA085-19-0
 DT:0E HW:0 LD:100
 STN:V3 ORTN:240 'TN TXHT:60 ft
 ERP:56.90 W ANT:PCNA085-19-0
 DT:0E HW:0 LD:100

LOA-1001
 LAT:33-40-56N LON:117-51-28W
 GE: 30ft
 STN:V1 ORTN:0 'TN TXHT:60 ft
 ERP:56.90 W ANT:PCNA085-19-0
 DT:0E HW:0 LD:100
 STN:V2 ORTN:120 'TN TXHT:60 ft
 ERP:56.90 W ANT:PCNA085-19-0
 DT:0E HW:0 LD:100
 STN:V3 ORTN:240 'TN TXHT:60 ft
 ERP:56.90 W ANT:PCNA085-19-0
 DT:0E HW:0 LD:100

LOA-1002
 LAT:33-53-14N LON:117-57-52W
 GE: 217ft
 STN:V1 ORTN:0 'TN TXHT:60 ft
 ERP:56.90 W ANT:PCNA085-19-0
 DT:0E HW:0 LD:100
 *** Legend incomplete. See report ***

THRESHOLDS OVERLAYS
 (>= dBm)
 >= -83
 >= -86
 >= -91

BTA
 Tertiary
 MTA

Miles
 0 10.00 20.00 30.00

SCALE: 1:1,000,000 07/17/00 11:14

33-10 N 33-20 N 33-30 N 33-40 N 34-00 N 34-10 N 34-20 N 34-30 N

118-40 W 118-30 W 118-20 W 118-10 W 118-0 W 117-50 W 117-40 W 117-30 W 117-20 W 117-10 W 117-0 W